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### REMARKS

This Application has been carefully reviewed in light of the Office Action mailed February 14, 2006 (the "Office Action"). In the Office Action, Claims 1-10, 12, and 14-22 are pending. The Examiner rejects Claims 1-10, 12, and 14-22. In order to advance prosecution of this case, Applicant amends Claim 1, 10, and 17 and cancels Claim 5. Applicant respectfully requests reconsideration and favorable action in this case.

#### Section 103 Rejections

The Office Action rejects Claims 1-10, 12, and 14-22 under 35 U.S.C. §103(a) as being unpatentable over various combinations of U.S. Patent No. 6,526,030 issued to Rezaiifar et al. ("*Rezaiifar*") with U.S. Patent No. 6,728,217 issued to Amirijoo et al. ("*Amirijoo*"), U.S. Patent No. 6,729,929 issued to Sayers et al. ("*Sayers*"), and U.S. Patent No. 6,275,506 issued to Fazel et al. ("*Fazel*").

#### **A. Claims 1-2, 5-7, 9-13, 15-18, and 20**

The Office Action specifically rejects Claims 1-2, 5-7, 9-13, 15-18, and 20 under 35 U.S.C. §103(a) as being unpatentable over *Rezaiifar* in view of *Amirijoo*. Applicant respectfully submits, however, that the proposed *Rezaiifar-Amirijoo* combination does not disclose, teach, or suggest each and every element recited in Applicant's claims.

Independent Claim 1 of the present Application, as amended, recites:

A method of changing a physical data rate of an air interface on a per channel basis, the method comprising:

providing a plurality of logical communication channels, the plurality of logical communication channels being configured to communicate a signal;

providing a control channel as a communication interface between a communication device and a base station, the control channel operable to select and assign a data rate to each of the plurality of logical channels, the control channel including interfered carrier information; and

changing the data rates of the plurality of logical channels on a per channel basis.

The M.P.E.P. provides that "[a]ll words in a claim must be considered in judging the patentability of that claim against the prior art." M.P.E.P. § 2143.03 (citing *In re Wilson*, 424

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F.2d 1382, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970)). Because neither *Rezaiifar* nor *Amirijoo* disclose, teach, or suggest each and every element recited in Applicant's Claim 1, Applicant respectfully submits that the combination of features and operations recited in Applicant's Claim 1 is not disclosed, taught, or suggested by the proposed *Rezaiifar-Amirijoo* combination.

For example, Applicant respectfully submits that the proposed *Rezaiifar-Amirijoo* combination does not disclose, teach, or suggest "providing a control channel as a communication interface between a communication device and a base station, the control channel operable to select and assign a data rate to each of the plurality of logical channels," as recited in Applicant's Claim 1. In the Office Action, the Examiner specifically relies upon *Rezaiifar* for disclosure of Applicant's step of "providing a control channel . . . ." (Office Action, page 3 citing Column 9, line 53 through Column 10, line 7 of *Rezaiifar*). According to *Rezaiifar*, however, "each base station 4 transmits data to zero or more remote stations 6 at any given moment." (Column 5, lines 27-28). The data is transmitted over one of "[t]wo sets of physical channels, one for the forward link [50] and another for the reverse link [52]." (Abstract; Figure 2). Although the physical channels include control channels, *Rezaiifar* merely discloses that the control channels "are used to transmit page and control messages and scheduling information." (Abstract; See also Column 9 line 46 through Column 10, line 14). There is no indication in *Rezaiifar* that the "control channel" is provided "as a communication interface between a communication device and a base station, the control channel operable to select and assign a data rate to each of the plurality of logical channels," as recited in Applicant's Claim 1.

To the contrary, to the extent that the "data rate can be variable" (Column 5, line 29), *Rezaiifar* discloses that a "base station controller 10 contains many selector elements 14 . . . assigned to control the communication between one or more base stations 4 and one remote station 6." (Column 5, lines 46-50). "Scheduler 12 connects to all selector elements 14 within base station controller 10." (Column 7, lines 9-11). "Scheduler 12 schedule data transmissions to achieve the system goal of maximum data throughput while conforming to system constraints." (Column 7, lines 14-17). *Rezaiifar* also discloses that "the data rate on the supplemental channel is requested by remote station 6 and granted by

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base station 4.” (Column 12, lines 3-5). Thus, to the extent *Rezaiifar* discloses varying the data rate of the logical channels, such operation is performed by the base station controller, base station, or some combination of these elements. There is no disclosure of “providing a control channel as a communication interface between a communication device and a base station, the control channel operable to select and assign a data rate to each of the plurality of logical channels,” as recited in Applicant’s Claim 1.

The Examiner also relies on the *Rezaiifar-Amirijoo* combination to reject independent Claims 10 and 17. Applicant respectfully submits, however, that the *Rezaiifar-Amirijoo* combination does not disclose, teach, or suggest each and every element of Applicant’s independent Claims 10 and 17. For example, Claim 10 recites “a control channel forming a communication interface between a communication device and a base station, the control channel operable to select and assign a data rate to each of the at least one logical communication channel, the control channel being configured to change the data rate assigned to each of the at least one logical communication channel based upon signal quality information about data communicated with the signal.” As another example, Claim 17 recites “an air interface of wireless communications between the communication device and the base station, the air interface including a control channel and a plurality of logical communication channels, the control channel operable to select and assign a data rate to each of the plurality of logical communication channels on a per channel basis based upon signal quality information about data communicated with the signal.” Thus, for reasons analogous to those discussed above with regard to Claim 1, Applicant respectfully submits that the proposed *Rezaiifar-Amirijoo* combination does not disclose, teach, or suggest each and every element set forth in Applicant’s independent Claims 10 and 17.

For at least these reasons, Applicant respectfully requests reconsideration and allowance of Claims 1, 10, and 17.

The Examiner also relies on the *Rezaiifar-Amirijoo* combination to reject dependent Claims 2, 5-7, 9, 11-13, 15-16, 18, and 20. Dependent Claims 2 and 5-7 depend on Claim 1. Dependent Claims 11-13 and 14-16 depend on Claim 10. Dependent Claims 18 and 20

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depend on Claim 17. Accordingly, dependent Claims 2, 5-7, 9, 11-13, 15-16, 18, and 20 are allowable at least because each incorporates the limitations of their respective independent claims, which Applicant has shown above to be allowable.

Additionally, Claims 2, 5-7, 9, 11-13, 15-16, 18, and 20 are patentable because they recite further features and operations that are not disclosed, taught, or suggested in the prior art. As just one example, Claim 6 recites "that the selected data rate is a multiple of a basic data rate." In the Office Action, the Examiner specifically relies upon *Rezaiifar* for disclosure of the recited claim language. The relied upon portion of *Rezaiifar*, however, merely discloses:

A significant difference between voice services and data services is that the former requires a fixed and common grade of service (GOS) for all users. Typically, for digital systems providing voice services, this translates into a fixed and equal data rate for all users and a maximum tolerable value for the error rates of the speech frames, independent of the link resource. For the same data rate, a higher allocation of resource is required for users having weaker links. This results in an inefficient use of the available resource.

(Column 2, lines 35-44). Thus, the cited portion of *Rezaiifar* discloses, teaches, or suggests neither a basic data rate or a multiple of the basic data rate. The recited elements are completely absent from the disclosure of *Rezaiifar*.

For at least these reasons, Applicant respectfully requests reconsideration and allowance of Claims 2, 5-7, 9, 11-13, 15-16, 18, and 20.

**B. Claims 3-4, 8-9, 14, 21, and 22**

The Office Action rejects Claims 3-4, 8-9, 14, 21, and 22 under 35 U.S.C. §103(a) as being unpatentable over *Rezaiifar* in view of *Amirijoo* and U.S. Patent No. 6,729,929 issued to Sayers et al. ("*Sayers*"). The Office Action also rejects Claim 22 under 35 U.S.C. §103(a) as being unpatentable over *Rezaiifar* in view of *Amirijoo* and U.S. Patent No. 6,275,506

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issued to Fazel et al. ("*Fazel*"). Applicant respectfully traverses these rejections for the reasons stated below.

First, dependent Claims 3-4 and 8-9 depend on Claim 1. Dependent Claim 14 depends on Claim 10, and dependent Claims 21 and 22 depend on Claim 17. Accordingly, dependent Claims 3-4, 8-9, 14, 21, and 22 are allowable at least because each incorporates the limitations of their respective independent claims, which Applicant has shown above to be allowable.

Second, Applicants submits that Claims 3-4, 8-9, 14, 21, and 22 recite additional elements that further distinguish the art. As just one example, Claim 8 incorporates the features recited in Claim 7 and further recites that "the high data rate is between 32 k bits/sec and 256 k bits/sec and the low data rate is between 16 k bits/sec and 32 bits/sec." Thus, Claim 8 recites that the logical communication channels having a high data rate communicate data information at a rate between 32 k bits/sec and 256 k bits/sec. Claim 8 also recites that the logical communication channels having a low data rate communicate voice information at a rate between 16 k bits/sec and 32 k bits/sec. Claim 21 recites certain analogous features and operations.

In the Office Action, the Examiner acknowledges that *Rezaiifar* does not disclose the recited features. (Office Action, page 8). Instead, the Examiner relies upon *Sayers* for disclosure of "the high data rate [for data information] is between 32 k bits/sec and 256 k bits/sec and the low data rate [for voice information] is between 16 k bits/sec and 32 k bits/sec. The relied upon portion of *Sayers*, however, merely discloses:

Speech in GSM is digitally coded at a rate of 13 kbps, so-called full rate speech coding. This rate is efficient compared with the standard ISDN rate of 64 kbps. In addition, GSM also supports a half-rate speech code operating at around 7 kbps, effectively doubling the capacity of a network.

(Column 2, lines 35-44). Thus, even to the extent that speech in GSM is analogous to Applicant's "voice information" (which Applicant does not admit), the data rate disclosed in *Sayers* as being associated with speech in GSM is not even within Applicant's claimed low

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data rate between 16 k bits/sec and 32 k bits/sec. Furthermore, the Examiner has not identified a portion of *Rezaiifar*, *Amirijoo*, or *Sayers* that discloses the high data rate [for data information] being "between 32 k bits/sec and 256 k bits/sec," as recited in Claims 8 and 21.

Third, Applicant submits that the Examiner has not demonstrated the requisite teaching, suggestion, or motivation in *Rezaiifar*, *Amirijoo*, *Sayers*, or the knowledge generally available to those of ordinary skill in the art at the time of the invention to modify or combine *Rezaiifar*, *Amirijoo*, and *Sayers* in the manner the Examiner proposes. The rejections are improper and should be reversed for at least this additional reason.

The question raised under 35 U.S.C. § 103 is whether the prior art taken as a whole would suggest the claimed invention taken as a whole to one of ordinary skill in the art at the time of the invention. Accordingly, even if all elements of a claim are disclosed in various prior art references, which is certainly not the case here as discussed above, the claimed invention taken as a whole cannot be said to be obvious without some reason given in the prior art why one of ordinary skill at the time of the invention would have been prompted to modify the teachings of a reference or combine the teachings of multiple references to arrive at the claimed invention.

The governing Federal Circuit case law makes this strict legal standard clear.<sup>1</sup> According to the Federal Circuit, "a showing of a suggestion, teaching, or motivation to combine or modify prior art references is an essential component of an obviousness holding." *In re Sang-Su Lee*, 277 F.3d 1338, 1343, 61 U.S.P.Q.2d 1430, 1433 (Fed. Cir. 2002) (quoting *Brown & Williamson Tobacco Corp. v. Philip Morris Inc.*, 229 F.3d 1120, 1124-25, 56 U.S.P.Q.2d 1456, 1459 (Fed. Cir. 2000)). "Evidence of a suggestion, teaching, or motivation . . . may flow from the prior art references themselves, the knowledge of one of ordinary skill in the art, or, in some cases, the nature of the problem to be solved." *In re Dembiczak*, 175 F.3d 994, 999, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999). However, the "range of sources available . . . does not diminish the requirement for actual evidence." *Id.* *Although a prior*

<sup>1</sup> Note M.P.E.P. 2145 X.C. ("The Federal Circuit has produced a number of decisions overturning obviousness rejections due to a lack of suggestion in the prior art of the desirability of combining references.").

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art device *"may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so."* *In re Mills*, 916 F.2d at 682, 16 U.S.P.Q.2d at 1432 (emphasis added). See also *In re Rouffet*, 149 F.3d 1350, 1357, 47 U.S.P.Q.2d 1453, 1457-58 (Fed. Cir. 1998) (*holding a prima facie case of obviousness not made where the combination of the references taught every element of the claimed invention but did not provide a motivation to combine*); *In Re Jones*, 958 F.2d 347, 351, 21 U.S.P.Q.2d 1941, 1944 (Fed. Cir. 1992) ("Conspicuously missing from this record is any evidence, other than the PTO's speculation (if that can be called evidence) that one of ordinary skill in the herbicidal art would have been motivated to make the modification of the prior art salts necessary to arrive at" the claimed invention.). Even a determination that it would have been obvious to one of ordinary skill in the art at the time of the invention to try the proposed modification or combination is not sufficient to establish a *prima facie* case of obviousness. See *In re Fine*, 837 F.2d 1071, 1075, 5 U.S.P.Q.2d 1596, 1599 (Fed. Cir. 1988).

In addition, the M.P.E.P. and the Federal Circuit repeatedly warn against using an applicant's disclosure as a blueprint to reconstruct the claimed invention. For example, the M.P.E.P. states, *"The tendency to resort to 'hindsight' based upon applicant's disclosure is often difficult to avoid due to the very nature of the examination process. However, impermissible hindsight must be avoided and the legal conclusion must be reached on the basis of the facts gleaned from the prior art."* M.P.E.P. § 2142 (emphasis added). The governing Federal Circuit cases are equally clear. "A critical step in analyzing the patentability of claims pursuant to [35 U.S.C. § 103] is casting the mind back to the time of invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the field. . . . Close adherence to this methodology is especially important in cases where the very ease with which the invention can be understood may prompt one 'to fall victim to the insidious effect of a hindsight syndrome wherein that which only the invention taught is used against its teacher.'" *In re Kotzab*, 217 F.3d 1365, 1369, 55 U.S.P.Q.2d 1313, 1316 (Fed. Cir. 2000) (citations omitted; emphasis added). In *In re Kotzab*, the court noted that to prevent the use of hindsight based on the invention to defeat patentability of the invention, this court requires the examiner to show a motivation to combine the references that create the case of obviousness. See *id.* See also, e.g., *Grain Processing Corp. v. American Maize-Products*, 840 F.2d 902, 907, 5

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U.S.P.Q.2d 1788, 1792 (Fed. Cir. 1988). Similarly, in *In re Dembiczak*, the Federal Circuit reversed a finding of obviousness by the Board, *explaining that the required evidence of such a teaching, suggestion, or motivation is essential to avoid impermissible hindsight reconstruction of an applicant's invention*:

Our case law makes clear that the best defense against the subtle but powerful attraction of hind-sight obviousness analysis is *rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references*. Combining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability—the essence of hindsight.

175 F.3d at 999, 50 U.S.P.Q.2d at 1617 (emphasis added) (citations omitted; emphasis added).

According to the Examiner, and with regard to Claims 3 and 14, “it would have been obvious for one [of] ordinary skill in the art at the time the invention was made to modify the [teachings of *Rezaiifar* and *Amirijoo*] with the teaching of *Sayers* in order to assign the channel to the mobile terminal with requested rate and to avoid dead-spots.” (Office Action, page 8). The Examiner has not pointed to any portions of the cited references, however, that would teach, suggest, or motivate one of ordinary skill in the art at the time of invention to incorporate the teachings of *Sayers* with the channel structure disclosed in *Rezaiifar* and the system for modifying data rates disclosed in *Amirijoo*. The Examiner has merely provided a conclusory statement identifying an advantage that is allegedly provided by the teachings of *Sayers* (and Applicant does not admit that *Sayers* discloses such an advantage).<sup>2</sup> In other

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<sup>2</sup> The Examiner provides similar conclusory states in support of the proposed *Rezaiifar-Amirijoo-Sayers* combination with respect to Claims 4, 8, 19, 21, and 22. For example, the Examiner states with regard to Claims 4 and 19 that “it would have been obvious to one [of] ordinary skill in the art at the time the invention was made to modify the *Rezaiifar et al.* with the teaching of the *Sayers et al.* of control channel with operates at a low data rate in order to utilize most of the channels capacity for physical traffic channels.” (Office Action, page 8). With regard to Claims 8 and 21, the Examiner states that “it would have been obvious to one [of] ordinary skill in the art at the time the invention was made to modify the *Rezaiifar et al.* with the teaching of the *Sayers et al.* of logical channel of data rate in order to provide the mobile terminal with the data rate requesting.” (Office Action, pages 8-9). With regard to Claim 22, the Examiner states that “it would have been obvious to one skilled in the art at the time the invention was made to modify the above references with the teaching of *Fazel* in order to provide customer the choice of wireless device for transmitting and receiving variable data rate.” (Office Action, page 9).



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words, the Examiner has not provided an explanation as to: (1) why it would have been obvious to one of ordinary skill in the art at the time of Applicant's invention (*without using Applicant's claims as a guide*) to modify the channel structure disclosed in *Rezaiifar* and the system for modifying data rates disclosed in *Amirijoo* to include the frequency hopping spectrum of *Sayers*; (2) how one of ordinary skill in the art at the time of Applicant's invention would have actually and successfully done so; and (3) how doing so would purportedly meet the limitations of Claims 3 and 14. Thus, there is no "factual inquiry" in this reasoning, and this reasoning surely cannot be said to be "thorough and searching." Indeed, if it were sufficient for Examiners to merely point to a purported advantage of one reference and conclude that it would have been obvious to combine or modify that reference with other references simply based on that advantage (which, as should be evident from the case law discussed above, it certainly is not), then virtually any two or more references would be combinable just based on the fact the one reference states an advantage of its system. Of course, as the Federal Circuit has made clear and as discussed above, that is not the law. According, Applicant respectfully submits that the proposed *Rezaiifar-Amirijoo-Sayers* combination is improper with respect to in Applicant's dependent Claims 3-4, 8-9, 14, 21, and 22.

For at least these reasons, Applicant respectfully requests reconsideration and allowance of Claims 3-4, 8-9, 14, 21, and 22.

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Again, the Examiner identifies alleged advantages of *Sayers* and *Fazel*, respectively, but does not provide explanation as to (1) why it would have been obvious to one of ordinary skill in the art at the time of Applicant's invention (*without using Applicant's claims as a guide*) to modify the channel structure disclosed in *Rezaiifar* to include the particular techniques disclosed in *Sayers* and *Fazel*; (2) how one of ordinary skill in the art at the time of Applicant's invention would have actually and successfully done so; and (3) how doing so would purportedly meet the limitations of Claims 4, 8, 19, 21, and 22.

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**CONCLUSION**

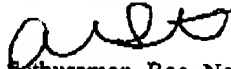
Applicant has made an earnest attempt to place this case in condition for allowance. For the foregoing reasons, and for other apparent reasons, Applicant respectfully requests full allowance of all pending Claims. If the Examiner feels that a telephone conference or an interview would advance prosecution of this Application in any manner, the undersigned attorney for Applicant stands ready to conduct such a conference at the convenience of the Examiner.

Applicant believes no fees are currently due. However, should there be a fee discrepancy, the Commissioner is hereby authorized to charge any fees or credit any overpayments to Deposit Account No. 19-2179.

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